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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES



Attorney Docket No. 8055 (1001-0582)

Application of: Morrison

Serial No. 09/217,542

Group Art Unit: 2162

Examiner: D. Lastra

Filed: December 21, 1998

Title: **Method and Apparatus for Determining if a User Walks Away from a Self-Service Checkout Terminal During Operation Thereof**

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Signature

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Technology Center 2100

LETTER

Asst. Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

Enclosed are an original and three (3) copies of an Appeal Brief in connection with the above-identified patent application. The Notice of Appeal was filed on February 19, 2002, and thus the Appeal Brief was due two months from this date (i.e. 04/19/02). Also enclosed herewith is a check for \$320.00 to cover the fee required under 37 CFR 1.17(c).

Additionally, the U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency or credit any overpayment, to our Deposit Account No. 13-0014, but not to include any payment of issue fees. If extensions of time under 37 C.F.R. § 1.136 are required to prevent abandonment of the present patent application, then such extensions of time are hereby petitioned for, and any fees therefor are hereby authorized to be charged to our Deposit Account No. 13-0014.

April 19, 2002

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Respectfully submitted,
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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ORIGINAL RUB
4-30-02

Attorney Docket No. 8055

Application of: **Morrison**

Group Art Unit: **2162**

Serial No.: **09/217,542**

Examiner: **D. Lastra**

Filed: **December 21, 1998**

For: **Method and Apparatus for Determining if a User Walks Away from a Self-Service Checkout Terminal During Operation Thereof**

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BRIEF ON APPEAL

Hon. Commissioner of Patents and Trademarks

Washington, D.C. 20231

Sir:

This is an appeal under 37 CFR § 1.191 to the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office from the final rejection of the claims 1-18 of the above-identified patent application.

These claims were indicated as finally rejected in an Office Action dated

November 27, 2001. Three copies of the brief are filed herewith, together with the \$320.00 fee required under 37 CFR § 1.17(c). Also, please provide any extension of time that may be necessary and charge any fees that may be due to Account No. 13-0014, but not to include any payment of issue fees.

(1) REAL PARTY IN INTEREST

NCR Corporation of Dayton, Ohio is the assignee of this patent application, and the real party in interest.

(2) RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences related to this patent application (serial no. 09/217,542).

(3) STATUS OF CLAIMS

Claims 1-18 are pending in the application.

Claims 1-18 are finally rejected, and are being appealed.

Each of claims 1-18 is shown in the Appendix attached to this Appeal Brief.

(4) STATUS OF AMENDMENTS

Appellant has filed no amendments subsequent to the final rejection contained in the Office Action mailed November 27, 2001.

(5) SUMMARY OF INVENTION

The present invention relates generally to security systems for self-service checkout systems, and particularly addresses the various problems created when a self-service checkout customer walks away from a self-service checkout terminal.

Turning now to Appellant's patent application, and in particular to FIGS. 1 and 2 thereof, there is shown a self-service checkout terminal 10 for use in a retail business such as a grocery store. The self-service checkout terminal 10 includes a summoning device such as a status light device 11, a product scale 12, a scanner 14, a bagwell scale 20, a movement detecting device such as a movement detection floor mat 22, a card reader 30, a display monitor 32, a keypad 34, a printer 36, and a processing unit 26.

The self-service checkout terminal 10 also includes a bagwell 38 for accommodating one or more grocery bags (not shown) and a base 40 having a counter 42 secured thereto. The counter 42 defines an arcuate surface as shown in FIG. 2. Such an arcuate surface allows the scanner 14 to be positioned relatively close or otherwise proximate the ATM 24 and hence the components associated therewith. Such a configuration facilitates a user's (e.g. customer's) use of the self-service checkout terminal 10. Moreover, the bagwell

38 is configured to allow two or more grocery bags to be accessed by the customer at any given time thereby allowing a customer to selectively load various item types into the grocery bags. For example, the customer may desire to use a first grocery bag for household chemical items such as soap or bleach, and a second grocery bag for edible items such as meat and produce.

The scanner 14 conventionally scans or reads a product identification code such as a Universal Product Code (UPC), industrial symbol(s), alphanumeric character(s), or other indicia associated with an item to be purchased.

The scanner 14 includes a first scanning window 14a and a second scanning window 14b. The first scanning window 14a is disposed in a substantially horizontal manner, whereas the second scanning window 14b is disposed in a substantially vertical manner, as shown in FIG. 1. The product scale 12 is integrated with the scanner 14. More specifically, the product scale 12 is disposed substantially parallel to the scanning window 14a thereby enveloping the scanning window 14a. If an item such as produce is placed upon the product scale 12 or the first scanning window 14a, the product scale 12 may be used to determine the weight of the item.

The scanner 14 also includes a light source (not shown) such as a laser, a rotating mirror (not shown) driven by a motor (not shown), and a mirror array (not shown). In operation, a laser beam reflects off the rotating mirror and mirror array to produce a pattern of scanning light beams. As the product identification code on an item is passed over the scanner 14, the scanning light beams scatter

off the code and are returned to the scanner 14 where they are collected and detected. The reflected light is then analyzed electronically in order to determine whether the reflected light contains a valid code pattern. If a valid code pattern is present, the product identification code may then be utilized to retrieve product information associated with the item (e.g. the price of the item) in the manner described below.

The display monitor 32 displays instructions that serve to guide a customer through a checkout procedure. For example, an instruction is displayed on the display monitor 32 which instructs the customer to enter an item into the self-service checkout terminal 10 by either passing the item over the scanner 14, or placing the item on the product scale 12 in order to obtain the weight of the item.

The status light device 11 is provided in order to notify store personnel, such as a customer service manager, if intervention into the customer's transaction is needed. In particular, the status light device 11 may display a first colored (e.g. yellow) light in order to notify store personnel that intervention is needed prior to the end of the customer's transaction.

The bagwell scale 20 is a weight scale which monitors the weight of items placed in the bagwell 38 (i.e. into a grocery bag) or onto the portion of the counter 42 which is located proximate the bagwell 38. It should be appreciated that a customer may place an item onto the portion of the counter 42 proximate the bagwell 38 subsequent to entering the item, but prior to placing the item into a grocery bag. For example, if a customer scans a loaf of bread, the customer

may want to place the bread onto the portion of the counter 42 proximate the bagwell 38 until one of the grocery bags is nearly full thereby preventing the bread from being crushed. Hence, the bagwell scale 20 may be utilized to monitor the ingress and egress of items into and out of the bagwell 38 along with onto and off of the counter 42. Such monitoring is particularly useful for preventing items that have not been scanned from being placed into a grocery bag.

The movement detection floor mat 22 is provided to track movement of a customer within a checkout area 44 of the retail store. What is meant herein by the term "checkout area" is the area around the self-service checkout terminal 10 in which the customer moves about during operation of the terminal 10 to enter and bag items and thereafter tender payment for the same. For example, as shown in FIG. 2, the checkout area 44 may be defined as the area within the phantom lines around the self-service checkout terminal 10. As shall be discussed below in more detail, the movement detection floor mat 22 is capable of detecting directional movement of the customer within the checkout area 44. Such detection capability is distinguished from a simple motion sensor in that the movement detection floor mat 22 is capable of determining direction of travel along with monitoring movement throughout substantially all of the checkout area 44, not simply the area immediately in front of the terminal 10 as would be the case with a simple motion sensor.

The movement detection floor mat 22 is preferably constructed of a thin polypropylene laminate that is positioned on or under the carpeting or floor tiles

of the store. The laminate is approximately 0.002 inches thick and includes tiny "pillows" of foamed plastic. These pillows function as an electret that is a type of electromagnet used, for example, in certain microphones. When a weak electrical current is applied across the top of the laminate, the foamed plastic pillows respond to slight or otherwise minute changes in pressure by generating an electrical output signal. Such movement detection floor mats 22 have been found to be able to detect the breathing of a person lying on the floor.

Hence, as shown in FIG. 2, the movement detection floor mat 22 may be divided into a number of detection zones 22a-22l. Movement into an out of each of the detection zones 22a-22l may be utilized to track movement of a customer within the checkout area 44 of the store. In particular, the movement detection floor mat 22 generates ordered output signals indicative of which detection zone 22a-22l is being stepped on by the customer operating the self-service checkout terminal 10. It should be appreciated that the size, shape, and number of the detection zones 22a-22l may be altered to fit the needs of a given checkout area 44 or terminal 10. Moreover, it should be appreciated that a number of smaller, separate movement detection floor mats 22 may be utilized in lieu of a larger, single movement detection floor mats 22 divided into the detection zones 22a-22l, if so desired.

Referring now to FIG. 3, there is shown a simplified block diagram of the self-service checkout terminal 10. The processing unit 26 is electrically coupled to the product scale 12, the scanner 14, the bagwell scale 20, the movement detection floor mat 22, the card reader 30, the display monitor 32, and the

keypad 34. The processing unit 26 is also electrically coupled to a network 25 and a memory device 27.

The processing unit 26 monitors output signals generated by the scanner 14 via a communication line 29. In particular, when the customer scans an item which includes a product identification code across the scanning windows 14a, 14b, an output signal indicative of the product identification code is generated on the communication line 29.

The processing unit 26 is coupled to the product scale 12 via a data communication line 31. In particular, when a customer places an item on the product scale 12, the product scale 12 generates an output signal on the data communication line 31 indicative of the weight of the item.

The processing unit 26 is coupled to the bagwell scale 20 via a data communication line 52. In particular, when a customer places an item into a grocery bag or onto the portion of the counter 42 proximate the bagwell 38, the bagwell scale 20 generates an output signal on the data communication line 52 indicative of the weight of the items in the grocery bags and on the portion of the counter 42 proximate the bagwell 20.

The processing unit 26 communicates with the display monitor 32 through a data communication line 43. The processing unit 26 generates output signals on the data communication line 43 that cause various instructional messages to be displayed on the display monitor 32. As alluded to above, the display monitor 32 may include known touch screen technology that can generate output signals when the customer touches a particular area of the display screen associated

with the display monitor 32. The signals generated by the display monitor 32 are transmitted to the processing unit 26 via the data communication line 43. It should be appreciated that the various instructional messages may also be communicated via other devices in addition to or in lieu of the display monitor 32. For example, instructional messages may be generated with a voice generating device (not shown) or an audible tone generating device (not shown).

The keypad 34 is coupled to the processing unit 26 through a data communication line 49. The keypad 34 may include one or more of a known keypad or a touch pad. It should be appreciated that the touch screen associated with the display monitor 32 and the keypad 34 define input devices which may be utilized by a customer to input information associated with operation of the self-service checkout terminal 10.

Moreover, the card reader 30 is coupled to the processing unit through a data communication line 45. The card reader 30 may include a known credit, debit, loyalty, and/or smart card reader that is capable of reading information stored on the customer's card.

The movement detection floor mat 22 is coupled to the processing unit 26 via a data communication line 46. The movement detection floor mat 22 generates output signals on the data communication line 46 indicative of the customer's movement within the checkout area 44 of the retailer's store. It should be appreciated that the processing unit 26 receives such output signals from the movement detection floor mat 22 and determines a motion pattern associated with the customer's movement (i.e. in which direction the customer is

walking and if the customer stays within the checkout area 44). For example, as shown in FIG. 4, if the customer moves between the scanner 14, the bagwell 38, and the ATM 24 during operation of the self-service checkout terminal 10, the movement detection floor mat 22 generates ordered output signals indicative of movement, for example, in the detection zones 22b, 22c, 22d, and 22e.

In addition, as shown in FIG. 5, if the customer walks away from the self-service checkout terminal 10 so as to return to a shopping area 48 of the retailer's store, the movement detection floor mat 22 generates ordered output signals indicative of movement, for example, in the detection zones 22e, 22f, 22k, 22d, 22i, 22b, and 22g. Subsequent to such movement detection, the movement detection floor mat 22 does not generate further output signals since the customer is not standing or otherwise positioned in the checkout area 44 (i.e. on the movement detection floor mat 22). What is meant herein by the term "shopping area" is the area of the retail store containing shelves and the like where the customer typically selects his or her items for purchase. Hence, during a typical visit to the retailer's store, the customer selects his or her items for purchase from the shopping area 48 of the store and thereafter advances to the checkout area 44 of the store so as to checkout his or her items for purchase with the self-service checkout terminal 10.

Moreover, as shown in FIG. 6, if the customer walks away from the self-service checkout terminal 10 so as to exit the store through a store exit 50, the movement detection floor mat 22 generates ordered output signals indicative of movement, for example, in the detection zones 22a, 22b, 22h, 22c, 22j, 22e, and

22l. Subsequent to such movement detection, the movement detection floor mat 22 does not generate further output signals since the customer is not standing or otherwise positioned in the checkout area 44 (i.e. on the movement detection floor mat 22). It should be appreciated that such movement toward the store exit 50 is typically performed only after the customer has tendered payment for his or her items for purchase. In particular, as discussed below in greater detail, if the customer makes an attempt to exit the retail store prior to tendering payment for his or her items for purchase, the processing unit 26 concludes that the customer may be attempting to commit an impropriety such as theft.

The processing unit 26 includes network interface circuitry (not shown) which conventionally permits the self-service checkout terminal 10 to communicate with the retailer's network 25 such as a LAN or WAN through a wired connection 51. The processing unit 26 communicates with the retailer's network 25 during the checkout procedure in order to obtain information, such as pricing information, associated with an item being scanned or otherwise entered, and also to verify customer credit approval when appropriate. The network interface circuitry associated with the self-service checkout terminal 10 may include a known Ethernet expansion card, and the wired connection 51 may include a known twisted-pair communication line.

The processing unit 26 communicates with the memory device 27 via a data communication line 53. The memory device 27 is provided to maintain an electronic transaction table which includes a record of the product information associated with each item that is scanned, weighed, or otherwise entered during

the customer's use of the self-service checkout terminal 10. For example, if the customer scans a can of soup, the description of the soup and the pricing information associated therewith is recorded in the transaction table in the memory device 27. Similarly, if the customer weighs a watermelon with the product scale 12 and then enters a product lookup code associated with watermelon via the data input device 34, product information associated with the watermelon is recorded in the transaction table.

It should therefore be appreciated that the sum of each of the items recorded in the transaction table (1) minus any reductions (e.g. coupons), and (2) plus any applicable taxes is the amount that the customer pays for his or her transaction. Moreover, data stored in the transaction table is printed out on the printer 36 thereby generating a receipt for the customer at the end of his or her transaction.

In operation, after the customer has selected his or her items for purchase from the shopping area 48 of the retailer's store, the customer advances to the checkout area 44 of the store so as to checkout his or her items for purchase with the self-service checkout terminal 10. The customer then initializes the self-service checkout terminal 10 and commences to scan his or her items for purchase with the scanner 14 or otherwise enter his or her items into the terminal 10. Once the customer has entered the last of his or her items for purchase, the processing unit 26 causes a message to be displayed in the display monitor 32 which instructs the customer to tender payment for his or her items for purchase by either inserting cash into a currency acceptor (not shown) or by inserting a

debit, credit, or smart card into the card reader 30. It should be appreciated that in the case of when the customer inserts cash into the currency acceptor, change may be returned to the customer by a currency dispenser (not shown) and a coin dispenser (not shown). If the customer properly tenders payment for his or her items for purchase, a payment-tendered control signal is generated thereby causing the retail checkout transaction to end.

During such a retail checkout transaction, the movement detection floor mat 22 is utilized to monitor the customer's movement both within and into and out of the checkout area 44. If the customer exits the checkout area 44 of the retail store, the processing unit 26 generates a walk-away control signal that is utilized to determine if the customer is attempting to commit an impropriety such as theft. In particular, if the customer walks away from (i.e. exits) the checkout area 44 of the store prior to tendering payment for his or her items for purchase (i.e. the walk-away control signal is generated prior to generation of the payment-tendered control signal), the processing unit 26 generates a personnel-request control signal. In response to generation of the personnel-request control signal, the processing unit 26 operates a summoning device (e.g. the status light device 11 or a paging system) so as to summon retail personnel such as the customer service manager to investigate the walk away situation. It should be appreciated that, as described below, certain walk away situations are deemed less of a security risk relative to other walk away situations.

For example, as shown in FIG. 5, if the customer walks away from the self-service checkout terminal 10 so as to return to the shopping area 48 of the

retailer's store, the movement detection floor mat 22 generates ordered output signals indicative of movement, for example, in the detection zones 22e, 22f, 22k, 22d, 22i, 22b, and 22g. Receipt of such ordered output signals causes the processing unit 26 to generate a first type of walk-away control signal such as a return-to-shopping control signal. If the customer then later returns to the shopping area 44 (i.e. the movement detection floor mat 22 detects presence of the customer), a return-to-terminal control signal is generated. Upon generation of the return-to-terminal control signal, the processing unit 26 concludes that the customer was not attempting to commit an impropriety such as theft and therefore causes the self-service checkout terminal 10 to be operated so as to allow the customer to continue his or her retail checkout transaction. More particularly, since the customer exited the checkout area 44 so as to return to the shopping area 48 of the store and thereafter returned to the checkout area 44, the processing unit 26 concludes that the customer merely returned to the shopping area 48 to retrieve a forgotten item. It should be appreciated that if the customer does not return to the checkout area 44 within a predetermined period of time the processing unit 26 may operate the status light device 11 so as to summon retail personnel such that retail personnel may void the abandoned retail checkout transaction.

However, as shown in FIG. 6, if the customer walks away from the self-service checkout terminal 10 so as to exit the store through the store exit 50, the movement detection floor mat 22 generates ordered output signals indicative of movement, for example, in the detection zones 22a, 22b, 22h, 22c, 22j, 22e, and

22l. Receipt of such ordered output signals causes the processing unit 26 to generate a second type of walk-away control signal such as an exiting-store control signal. If the customer exits the checkout area 44 in a direction indicative of an attempt to exit the store prior to tendering payment for his or her items for purchase (i.e. the exiting-store control signal is generated prior to generation of the payment-tendered control signal), a personnel-needed-immediately control signal is generated. Upon generation of the personnel-needed-immediately control signal, the processing unit 26 concludes that the customer may be attempting to commit an impropriety such as theft and therefore operates the summoning device (e.g. the status light device 11 or a paging system) to summon retail personnel in an urgent manner. For example, the status light device 11 may be operated to flash a red signal lamp so as to alert retail personnel that the customer may be exiting the store with items that have not been paid for. Retail personnel may then investigate the customer's transaction in order to determine if the customer was attempting to commit an impropriety such as theft.

(6) ISSUE

Whether claims 1-18 are unpatentable under 35 U.S.C. § 103 as being obvious over Addy et al. (U.S. Patent No. 6,056,087) in view of Harden et al. (U.S. Patent No. 4,206,450).

(7) GROUPING OF CLAIMS

The rejected claims do not stand or fall together.

Claims 1, 2, 14, and 15 form a first separately patentable group that is argued independently of the other claims for purposes of this appeal.

Claims 3 and 16 form a second separately patentable group that is argued independently of the other claims for purposes of this appeal.

Claims 4 and 17 form a third separately patentable group that is argued independently of the other claims for purposes of this appeal.

Claims 5 and 18 form a fourth separately patentable group that is argued independently of the other claims for purposes of this appeal.

Claim 6 forms a fifth separately patentable group that is argued independently of the other claims for purposes of this appeal.

Claim 7 forms a sixth separately patentable group that is argued independently of the other claims for purposes of this appeal.

Claims 8 and 9 form a seventh separately patentable group that is argued independently of the other claims for purposes of this appeal.

Claim 10 forms an eighth separately patentable group that is argued independently of the other claims for purposes of this appeal.

Claim 11 forms a ninth separately patentable group that is argued independently of the other claims for purposes of this appeal.

Claim 12 forms a tenth separately patentable group that is argued independently of the other claims for purposes of this appeal.

Claim 13 forms an eleventh separately patentable group that is argued independently of the other claims for purposes of this appeal.

(8) ARGUMENT

First Claim Grouping (Claims 1, 2, 14, and 15)

Claims 1, 2, 14 and 15 were rejected as being unpatentable under 35 U.S.C. § 103 as being obvious over Addy et al. (U.S. Patent No. 6,056,087) in view of Harden et al. (U.S. Patent No. 4,206,450). The Board of Appeals is respectfully requested to reconsider the rejection of claims 1, 2, 14, and 15.

1. Claim 1

Claim 1 reads as follows:

1. A method of operating a self-service checkout terminal located in a checkout area of a retail store, comprising the steps of:
generating a payment-tendered control signal when a user of said self-service checkout terminal tenders payment for a number of items for purchase;
detecting if said user exits said checkout area of said retail store and
generating a walk-away control signal in response thereto; and
generating a personnel-request control signal if said walk-away control signal is generated prior to generation of said payment-tendered control signal.

Appellant's invention of claim 1 is directed at the particular problems created in a self-service retail environment when a customer walks away from a self-service retail checkout terminal prior to tendering payment for his or her items for purchase. In traditional checkout systems, a clerk employed by the retailer to operate the checkout terminal monitors or otherwise ensures that the customer pays for his or her items for purchase prior to walking away from the checkout terminal. However, in the case of a self-service retail checkout terminal, the clerk is not present. The invention of claim 1 discovered by the

inventor effectively addresses these problems present in the self-service retail environment.

2. Proposed Combination of Addy and Harden

In both the November 27, 2001 Office Action (at page 3, lines 10-14) and the April 20, 2001 Office Action (at page 3, line 8-12), it was stated that:

It would have been obvious ... to know that the Addy et al system would be modified to include a pressure sensitive floor to determine if the user walk away from the checkout area. If this occurs before a payment-tendered is generated, security officers would be paged.

Thus, it appears that the proposed combination is to modify the retail terminal of Addy which is operable to generate a payment-tendered control signal when a user tenders payment for a number of items for purchase so that its retail terminal includes a pressure sensitive floor (such as taught by Harden). The proposed combination would further include modifying the retail terminal so that the pressure sensitive floor is operable to create a walk-away control signal in response to detecting a user exiting a checkout area of a retail store. The proposed modification would additionally include modifying the retail terminal so that it is operable to generate a personnel-request control signal if the walk-away control signal is generated prior to generation of the payment-tendered control signal.

3. *There Exists No Teaching, Suggestion, or Incentive which Supports Combining Addy and Harden in the Proposed Manner*

Obviousness cannot be established by modifying the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the modification.

A legally proper teaching, suggestion or incentive that supports combining Addy and Harden in a manner which arrives at the invention of claim 1 does not appear to have been identified in either the November 27, 2001 Office Action nor the April 20, 2001 Office Action. In short, *why* would one skilled in the art have been motivated to combine these two references? The November 27, 2001 Office Action seems to attempt to identify some motivation, but it is quite vague ("to improve security" - see page 12, line 2). Clearly, the mere fact that one may desire *to provide security* to a self-service retail terminal would not, ipso facto, provide the necessary motivation to one skilled in the art to combine Addy and Harden in a manner that arrives at the invention of claim 1. Indeed, arriving at Appellant's invention of claim 1 from this vague and general goal that the Examiner relies on to support his proposed combination would be very unlikely. Moreover, such a teaching, suggestion, or incentive does not otherwise appear to exist in the prior art. Absent such reasons or incentive, the teachings of the references are not properly combinable.

In addition, nowhere in the Addy reference is there any appreciation that its security monitoring system of its retail terminal is inferior in any regard, and may need to be improved upon. Further, nothing in the Harden reference nor any other cited reference alone or together suggests the claimed invention as a

solution to the problem of a customer walking away from a self-service retail checkout terminal prior to tendering payment for his or her items for purchase. That the claimed invention may employ some known principles (such as a pressure sensitive floor mat) does not itself establish that the invention would have been obvious. See e.g. *Lindermann Maschinenfabrik GmbH V. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984).

Accordingly, neither the November 27, 2001 Office Action nor the April 20, 2001 Office Action identifies a valid reason why one of ordinary skill in the art would be motivated to combine Addy and Harden so as to arrive at the invention of claim 1. Nor does the cited art otherwise provide any legally proper teaching, suggestion or incentive that supports the proposed combination of Addy and Harden. Consequently, a prima facie case of obviousness under 35 U.S.C. § 103 has not been established with regard to Appellant's invention of claim 1, and the Board of Appeals is respectfully requested to reverse the rejection of claim 1.

Discussion Re: Patentability of Claim 2

Claim 2 depends directly from claim 1. As a result, claim 2 is allowable for the reasons hereinbefore discussed with regard to claim 1. Accordingly, claim 2 is further allowable over the cited art.

Discussion Re: Patentability of Claim 14

The discussion in regard to the patentability of claim 1 is relevant to the patentability of claim 14. As a result, claim 14 is allowable over Addy and Harden.

Discussion Re: Patentability of Claim 15

Claim 15 depends directly from claim 14. As a result, claim 15 is allowable for the reasons hereinbefore discussed with regard to claim 14. Accordingly, claim 15 is further allowable over the cited art.

Second Claim Grouping (Claims 3 and 16)

Claims 3 and 16 were rejected as being unpatentable under 35 U.S.C. § 103 as being obvious over Addy et al. (U.S. Patent No. 6,056,087) in view of Harden et al. (U.S. Patent No. 4,206,450). The Board of Appeals is respectfully requested to reconsider the rejection of claims 3 and 16.

Claim 3 depends directly from claim 1. As a result, claim 3 is allowable for the reasons hereinbefore discussed with regard to claim 1. Moreover, claim 3 recites additional novel and nonobvious limitations. In particular, claim 3 reads as follows:

3. The method of claim 1, wherein said step of detecting if said user exits said checkout area of said retail store includes the step of detecting movement of said user on a movement detection floor mat and generating said walk-away control signal if said movement of said user is indicative of an attempt by said user to exit said checkout area of said retail store.

There is no teaching, suggestion or incentive that supports combining Addy and Harden in a manner which arrives at the invention of claim 3. While Harden's fire and intrusion security system may determine "the presence or absence of a client" (see 11/27/02 Office Action at page 4, line 8), it is highly unlikely this teaching of Harden would motivate one skilled in the art to combine the teachings of Addy and Harden to arrive at Appellant's invention of claim 3. Again, arriving at Appellant's invention of claim 3 from this vague and general goal would be very unlikely. As a result, a prima facie case of obviousness under 35 U.S.C. § 103 has further not been established with regard to Appellant's invention of claim 3. Accordingly, the Board of Appeals is respectfully requested to reverse the rejection of claim 3.

Discussion Re: Patentability of Claim 16

Claim 16 depends directly from claim 14. As a result, claim 16 is allowable for the reasons herein discussed with regard to claim 14. Moreover, the discussion in regard to the patentability of claim 3 is relevant to the patentability of claim 16. As a result, claim 16 is allowable over Addy and Harden.

Third Claim Grouping (Claims 4 and 17)

Claims 4 and 17 were rejected as being unpatentable under 35 U.S.C. § 103 as being obvious over Addy et al. (U.S. Patent No. 6,056,087) in view of

Harden et al. (U.S. Patent No. 4,206,450). The Board of Appeals is respectfully requested to reconsider the rejection of claims 4 and 17.

Claim 4 depends directly from claim 1. As a result, claim 4 is allowable for the reasons hereinbefore discussed with regard to claim 1. Moreover, claim 4 recites additional novel and nonobvious limitations. In particular, claim 4 reads as follows:

4. The method of claim 1, wherein said detecting step includes the step of detecting if said user exits said checkout area of said retail store so as to return to a shopping area of said retail store and generating a return-to-shopping control signal in response thereto, further comprising the steps of:
detecting if said user returns to said checkout area of said retail store from said shopping area of said retail store and generating a return-to-terminal control signal in response thereto; and
operating said self-service checkout terminal so as to allow said user to continue a retail transaction in response to generation of said return-to-terminal control signal.

Neither Addy nor Harden discloses the following step:

detecting if said user exits said checkout area of said retail store so as to return to a shopping area of said retail store and generating a return-to-shopping control signal in response thereto

Thus, combining Addy and Harden in the manner described in the November 27, 2001 Office Action at page 4, lines 9-22 would not arrive at Appellant's invention of claim 4. Consequently, a prima facie case of obviousness under 35 U.S.C. § 103 has further not been established with regard to Appellant's invention of claim 4, and the Board of Appeals is respectfully requested to reverse the rejection of claim 4.

Fourth Claim Grouping (Claims 5 and 18)

Claims 5 and 18 were rejected as being unpatentable under 35 U.S.C. § 103 as being obvious over Addy et al. (U.S. Patent No. 6,056,087) in view of Harden et al. (U.S. Patent No. 4,206,450). The Board of Appeals is respectfully requested to reconsider the rejection of claims 5 and 18.

Claim 5 depends directly from claim 4. As a result, claim 5 is allowable for the reasons hereinbefore discussed with regard to claim 4. Moreover, claim 5 recites additional novel and nonobvious limitations. In particular, claim 5 reads as follows:

5. The method of claim 4, wherein said step of detecting if said user exits said checkout area of said retail store so as to return to said shopping area of said retail store includes the step of detecting movement of said user on a movement detection floor mat in a direction toward said shopping area and generating said return-to-shopping control signal in response thereto.

Harden's fire and intrusion security system does not appear to disclose detecting a particular direction of movement of a person on its floor mat means, much less detecting movement of a user in a direction toward a shopping area of a retail store. (The Examiner identified the floor mat means generally at column 3, lines 9-16 in Harden.) Thus, combining Addy and Harden in the manner described in the November 27, 2001 Office Action at page 5, lines 3-17 would not arrive at Appellant's invention of claim 5. Consequently, a prima facie case of obviousness under 35 U.S.C. § 103 has further not been established with regard to Appellant's invention of claim 5, and the Board of Appeals is respectfully requested to reverse the rejection of claim 5.

Discussion Re: Patentability of Claim 18

Claim 18 depends directly from claim 16. As a result, claim 18 is allowable for the reasons hereinbefore discussed with regard to claim 16. Moreover, the discussion in regard to the patentability of claim 5 is relevant to the patentability of claim 18. As a result, claim 18 is allowable over Addy and Harden.

Fifth Claim Grouping (Claim 6)

Claim 6 was rejected as being unpatentable under 35 U.S.C. § 103 as being obvious over Addy et al. (U.S. Patent No. 6,056,087) in view of Harden et al. (U.S. Patent No. 4,206,450). The Board of Appeals is respectfully requested to reconsider the rejection of claim 6.

Claim 6 depends directly from claim 1. As a result, claim 6 is allowable for the reasons hereinbefore discussed with regard to claim 1. Moreover, claim 6 recites additional novel and nonobvious limitations. In particular, claim 6 reads as follows:

6. The method of claim 1, wherein said detecting step includes the step of detecting if said user exits said checkout area of said retail store so as to exit said retail store and generating an exiting-store control signal in response thereto, further comprising the steps of:
generating a personnel-needed-immediately control signal in response to generation of said exiting-store control signal; and
operating a summoning device so as to summon retail personnel in response to generation of said personnel-needed-immediately control signal.

Again, Harden's fire and intrusion security system lacks teaching of detecting a particular direction of movement of a person on its floor mat means. And certainly it lacks a teaching of detecting if a user exits the checkout area of

the retail store so as to exit the retail store. Thus, combining Addy and Harden in the manner described in the November 27, 2001 Office Action at page 5, line 18 through page 6, line 10 would not arrive at Appellant's invention of claim 6. Therefore, a prima facie case of obviousness under 35 U.S.C. § 103 has further not been established with regard to Appellant's invention of claim 6, and the Board of Appeals is respectfully requested to reverse the rejection of claim 6.

Sixth Claim Grouping (Claim 7)

Claim 7 was rejected as being unpatentable under 35 U.S.C. § 103 as being obvious over Addy et al. (U.S. Patent No. 6,056,087) in view of Harden et al. (U.S. Patent No. 4,206,450). The Board of Appeals is respectfully requested to reconsider the rejection of claim 7.

Claim 7 depends directly from claim 6. As a result, claim 7 is allowable for the reasons hereinbefore discussed with regard to claim 6. Moreover, claim 7 recites additional novel and nonobvious limitations. In particular, claim 7 reads as follows:

7. The method of claim 6, wherein, said step of detecting if said user exits said checkout area of said retail store so as to exit said retail store includes the step of detecting movement of said user on a movement detection floor mat in a direction indicative of an attempt by said user to exit said retail store and generating said personnel-needed-immediately control signal in response thereto.

Harden's fire and intrusion security system does not appear to disclose detecting a particular direction of movement of a person on its floor mat means, much less detecting movement of a user in a direction indicative of an attempt by the user to exit the retail store. Thus, combining Addy and Harden in the manner

described in the November 27, 2001 Office Action at page 6, line 11 through page 7, line 12 would not arrive at Appellant's invention of claim 7. Accordingly, a prima facie case of obviousness under 35 U.S.C. § 103 has further not been established with regard to Appellant's invention of claim 7, and the Board of Appeals is respectfully requested to reverse the rejection of claim 7.

Seventh Claim Grouping (Claims 8 and 9)

Claims 8 and 9 were rejected as being unpatentable under 35 U.S.C. § 103 as being obvious over Addy et al. (U.S. Patent No. 6,056,087) in view of Harden et al. (U.S. Patent No. 4,206,450). The Board of Appeals is respectfully requested to reconsider the rejection of claims 8 and 9.

Discussion Re: Patentability of Claim 8

Claim 8 reads as follows:

8. A method of operating a self-service checkout terminal located in a checkout area of a retail store, comprising the steps of:
generating a payment-tendered control signal when a user of said self-service checkout terminal tenders payment for a number of items for purchase;
detecting movement of said user on a movement detection floor mat and
generating a walk-away control signal if said movement of said user is indicative of an attempt by said user to exit said checkout area of said retail store; and
generating a personnel-request control signal if said walk-away control signal is generated prior to generation of said payment-tendered control signal.

Claim 8 is allowable for at least two distinct reasons.

Firstly, the discussion in regard to the patentability of claim 1 is relevant to the patentability of claim 8. (See First Claim Grouping discussion.) As a result, claim 8 is allowable over Addy and Harden.

Secondly, the discussion in regard to the patentability of claim 3 is relevant to the patentability of claim 8. (See Second Claim Grouping discussion.) As a result, claim 8 is further allowable over Addy and Harden.

Discussion Re: Patentability of Claim 9

Claim 9 depends directly from claim 8. As a result, claim 9 is allowable for the reasons hereinbefore discussed with regard to claim 8. As a result, claim 9 is allowable over Addy and Harden.

Eighth Claim Grouping (Claim 10)

Claim 10 was rejected as being unpatentable under 35 U.S.C. § 103 as being obvious over Addy et al. (U.S. Patent No. 6,056,087) in view of Harden et al. (U.S. Patent No. 4,206,450). The Board of Appeals is respectfully requested to reconsider the rejection of claim 10.

Discussion Re: Patentability of Claim 10

Claim 10 reads as follows:

10. The method of claim 8, wherein said detecting step includes the step of detecting movement of said user on said movement detection floor mat so as to determine if said user exits said checkout area of said retail store so as to return to a shopping area of said retail store and generating a return-to-shopping control signal in response thereto, further comprising the steps of:

detecting movement of said user on said movement detection floor mat so as to determine if said user returns to said checkout area of said retail store from said shopping area of said retail store and generating a return-to-terminal control signal in response thereto; and

operating said self-service checkout terminal so as to allow said user to continue a retail transaction in response to generation of said return-to-terminal control signal.

Claim 10 is allowable for at least two distinct reasons.

Firstly, the discussion in regard to the patentability of claim 8 is relevant to the patentability of claim 10. (See Seventh Claim Grouping discussion.) As a result, claim 10 is allowable over Addy and Harden.

Secondly, the discussion in regard to the patentability of claim 4 is relevant to the patentability of claim 10. (See Third Claim Grouping discussion.) As a result, claim 10 is further allowable over Addy and Harden.

Ninth Claim Grouping (Claim 11)

Claim 11 was rejected as being unpatentable under 35 U.S.C. § 103 as being obvious over Addy et al. (U.S. Patent No. 6,056,087) in view of Harden et al. (U.S. Patent No. 4,206,450). The Board of Appeals is respectfully requested to reconsider the rejection of claim 11.

Discussion Re: Patentability of Claim 11

Claim 11 reads as follows:

11. The method of claim 10, wherein said step of detecting movement of said user on said movement detection floor mat so as to determine if said user exits said checkout area of said retail store so as to return to said shopping area of said retail store includes the step of detecting movement of said user on said movement detection floor mat in a direction toward said shopping area and generating said return-to-shopping control signal in response thereto.

Claim 11 is allowable for at least three distinct reasons.

Firstly, the discussion in regard to the patentability of claim 8 is relevant to the patentability of claim 11. (See Seventh Claim Grouping discussion.) As a result, claim 10 is allowable over Addy and Harden.

Secondly, the discussion in regard to the patentability of claim 4 is relevant to the patentability of claim 11. (See Third Claim Grouping discussion.) As a result, claim 11 is further allowable over Addy and Harden.

Thirdly, the discussion in regard to the patentability of claim 5 is relevant to the patentability of claim 11. (See Fourth Claim Grouping discussion.) As a result, claim 11 is yet further allowable over Addy and Harden.

Tenth Claim Grouping (Claim 10)

Claim 12 was rejected as being unpatentable under 35 U.S.C. § 103 as being obvious over Addy et al. (U.S. Patent No. 6,056,087) in view of Harden et al. (U.S. Patent No. 4,206,450). The Board of Appeals is respectfully requested to reconsider the rejection of claim 12.

Discussion Re: Patentability of Claim 12

Claim 12 reads as follows:

12. The method of claim 8, wherein said detecting step includes the step of detecting movement of said user on said movement detection floor mat so as to determine if said user exits said checkout area of said retail store so as to exit said retail store and generating an exiting-store control signal in response thereto, further comprising the steps of:

generating a personnel-needed-immediately control signal in response to generation of said exiting-store control signal; and

operating a summoning device so as to summon retail personnel in response to generation of said personnel-needed-immediately control signal.

Claim 12 is allowable for at least two distinct reasons.

Firstly, the discussion in regard to the patentability of claim 8 is relevant to the patentability of claim 12. (See Seventh Claim Grouping discussion.) As a result, claim 12 is allowable over Addy and Harden.

Secondly, the discussion in regard to the patentability of claim 6 is relevant to the patentability of claim 12. (See Fifth Claim Grouping discussion.) As a result, claim 12 is further allowable over Addy and Harden.

Eleventh Claim Grouping (Claim 13)

Claim 13 was rejected as being unpatentable under 35 U.S.C. § 103 as being obvious over Addy et al. (U.S. Patent No. 6,056,087) in view of Harden et al. (U.S. Patent No. 4,206,450). The Board of Appeals is respectfully requested to reconsider the rejection of claim 13.

Discussion Re: Patentability of Claim 13

Claim 13 reads as follows:

13. The method of claim 12, wherein, said step of detecting movement of said user on said movement detection floor mat so as to determine if said user exits said checkout area of said retail store so as to exit said retail store includes the step of detecting movement of said user on said movement detection floor mat in a direction indicative of an attempt by said user to exit said retail store and generating said personnel-needed-immediately control signal in response thereto.

Claim 13 is allowable for at least two distinct reasons.

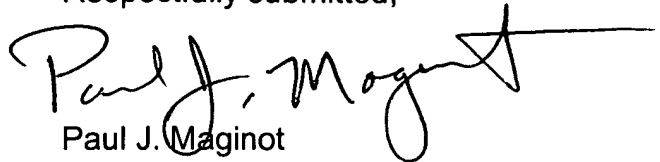
Firstly, the discussion in regard to the patentability of claim 8 is relevant to the patentability of claim 13. (See Seventh Claim Grouping discussion.) As a result, claim 13 is allowable over Addy and Harden.

Secondly, the discussion in regard to the patentability of claim 7 is relevant to the patentability of claim 13. (See Sixth Claim Grouping discussion.) As a result, claim 13 is further allowable over Addy and Harden.

(9) CONCLUSION

Claims 1-18 are not unpatentable under 35 U.S.C. § 103 as being obvious over Addy et al. (U.S. Patent No. 6,056,087) in view of Harden et al. (U.S. Patent No. 4,206,450), and the Board of Appeals is respectfully requested to reverse the rejection of these claims.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Paul J. Maginot", with a long horizontal flourish extending to the right.

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(10) APPENDIX

1. A method of operating a self-service checkout terminal located in a checkout area of a retail store, comprising the steps of:

generating a payment-tendered control signal when a user of said self-service checkout terminal tenders payment for a number of items for purchase;

detecting if said user exits said checkout area of said retail store and generating a walk-away control signal in response thereto; and

generating a personnel-request control signal if said walk-away control signal is generated prior to generation of said payment-tendered control signal.

2. The method of claim 1, further comprising the step of:

operating a summoning device so as to summon retail personnel in response to generation of said personnel-request control signal.

3. The method of claim 1, wherein said step of detecting if said user exits said checkout area of said retail store includes the step of detecting movement of said user on a movement detection floor mat and generating said walk-away control signal if said movement of said user is indicative of an attempt by said user to exit said checkout area of said retail store.

4. The method of claim 1, wherein said detecting step includes the step of detecting if said user exits said checkout area of said retail store so as to return to a shopping area of said retail store and generating a return-to-shopping control signal in response thereto, further comprising the steps of:

detecting if said user returns to said checkout area of said retail store from said shopping area of said retail store and generating a return-to-terminal control signal in response thereto; and

operating said self-service checkout terminal so as to allow said user to continue a retail transaction in response to generation of said return-to-terminal control signal.

5. The method of claim 4, wherein said step of detecting if said user exits said checkout area of said retail store so as to return to said shopping area of said retail store includes the step of detecting movement of said user on a movement detection floor mat in a direction toward said shopping area and generating said return-to-shopping control signal in response thereto.

6. The method of claim 1, wherein said detecting step includes the step of detecting if said user exits said checkout area of said retail store so as to exit said retail store and generating an exiting-store control signal in response thereto, further comprising the steps of:

generating a personnel-needed-immediately control signal in response to generation of said exiting-store control signal; and

operating a summoning device so as to summon retail personnel in response to generation of said personnel-needed-immediately control signal.

7. The method of claim 6, wherein, said step of detecting if said user exits said checkout area of said retail store so as to exit said retail store includes the step of detecting movement of said user on a movement detection floor mat in a direction indicative of an attempt by said user to exit said retail store and generating said personnel-needed-immediately control signal in response thereto.

8. A method of operating a self-service checkout terminal located in a checkout area of a retail store, comprising the steps of:

generating a payment-tendered control signal when a user of said self-service checkout terminal tenders payment for a number of items for purchase;

detecting movement of said user on a movement detection floor mat and generating a walk-away control signal if said movement of said user is indicative of an attempt by said user to exit said checkout area of said retail store; and

generating a personnel-request control signal if said walk-away control signal is generated prior to generation of said payment-tendered control signal.

9. The method of claim 8, further comprising the step of:

operating a summoning device so as to summon retail personnel in response to generation of said personnel-request control signal.

10. The method of claim 8, wherein said detecting step includes the step of detecting movement of said user on said movement detection floor mat so as to determine if said user exits said checkout area of said retail store so as to return to a shopping area of said retail store and generating a return-to-shopping control signal in response thereto, further comprising the steps of:

detecting movement of said user on said movement detection floor mat so as to determine if said user returns to said checkout area of said retail store from said shopping area of said retail store and generating a return-to-terminal control signal in response thereto; and

operating said self-service checkout terminal so as to allow said user to continue a retail transaction in response to generation of said return-to-terminal control signal.

11. The method of claim 10, wherein said step of detecting movement of said user on said movement detection floor mat so as to determine if said user exits said checkout area of said retail store so as to return to said shopping area of said retail store includes the step of detecting movement of said user on said movement detection floor mat in a direction toward said shopping area and generating said return-to-shopping control signal in response thereto.

12. The method of claim 8, wherein said detecting step includes the step of detecting movement of said user on said movement detection floor mat so as to determine if said user exits said checkout area of said retail store so as to exit said retail store and generating an exiting-store control signal in response thereto, further comprising the steps of:

generating a personnel-needed-immediately control signal in response to generation of said exiting-store control signal; and

operating a summoning device so as to summon retail personnel in response to generation of said personnel-needed-immediately control signal.

13. The method of claim 12, wherein, said step of detecting movement of said user on said movement detection floor mat so as to determine if said user exits said checkout area of said retail store so as to exit said retail store includes the step of detecting movement of said user on said movement detection floor mat in a direction indicative of an attempt by said user to exit said retail store and generating said personnel-needed-immediately control signal in response thereto.

14. A self-service checkout terminal, comprising:

a movement detecting device for detecting movement of a user thereon;

a processing unit electrically coupled to said movement detecting device;

and

a memory device electrically coupled to said processing unit, wherein said memory device has stored therein a plurality of instructions which, when executed by said processing unit, causes said processing unit to:

(a) generate a payment-tendered control signal when said user of said self-service checkout terminal tenders payment for a number of items for purchase,

(b) detect if said user exits said checkout area of said retail store with said movement detecting device and generate a walk-away control signal in response thereto, and

(c) generate a personnel-request control signal if said walk-away control signal is generated prior to generation of said payment-tendered control signal.

15. The retail terminal of claim 14, further comprising a summoning device for summoning retail personnel, wherein said plurality of instructions, when executed by said processing unit, further causes said processing unit to operate said summoning device so as to summon said retail personnel in response to generation of said personnel-request control signal.

16. The retail terminal of claim 14, wherein:

said movement detecting device includes a movement detection floor mat,
and

said plurality of instructions, when executed by said processing unit, further causes said processing unit to detect movement of said user on said movement detection floor mat and generate said walk-away control signal in response thereto.

17. The retail terminal of claim 16, wherein said plurality of instructions, when executed by said processing unit, further causes said processing unit to:

(a) detect if said user exits said checkout area of said retail store so as to return to a shopping area of said retail store with said movement detection floor mat and generate a return-to-shopping control signal in response thereto,

(b) detect if said user returns to said checkout area of said retail store from said shopping area of said retail store with said movement detection floor mat and generate a return-to-terminal control signal in response thereto, and

(c) operate said self-service checkout terminal so as to allow said user to continue a retail transaction in response to generation of said return-to-terminal control signal.

18. The retail terminal of claim 16, further comprising a summoning device for summoning retail personnel, wherein said plurality of instructions, when executed by said processing unit, further causes said processing unit to:

(a) detect if said user exits said checkout area of said retail store so as to exit said retail store with said movement detection floor mat and generate an exiting-store control signal in response thereto,

(b) generate a personnel-needed-immediately control signal in response to generation of said exiting-store control signal, and

(c) operate said summoning device so as to summon retail personnel in response to generation of said personnel-needed-immediately control signal.